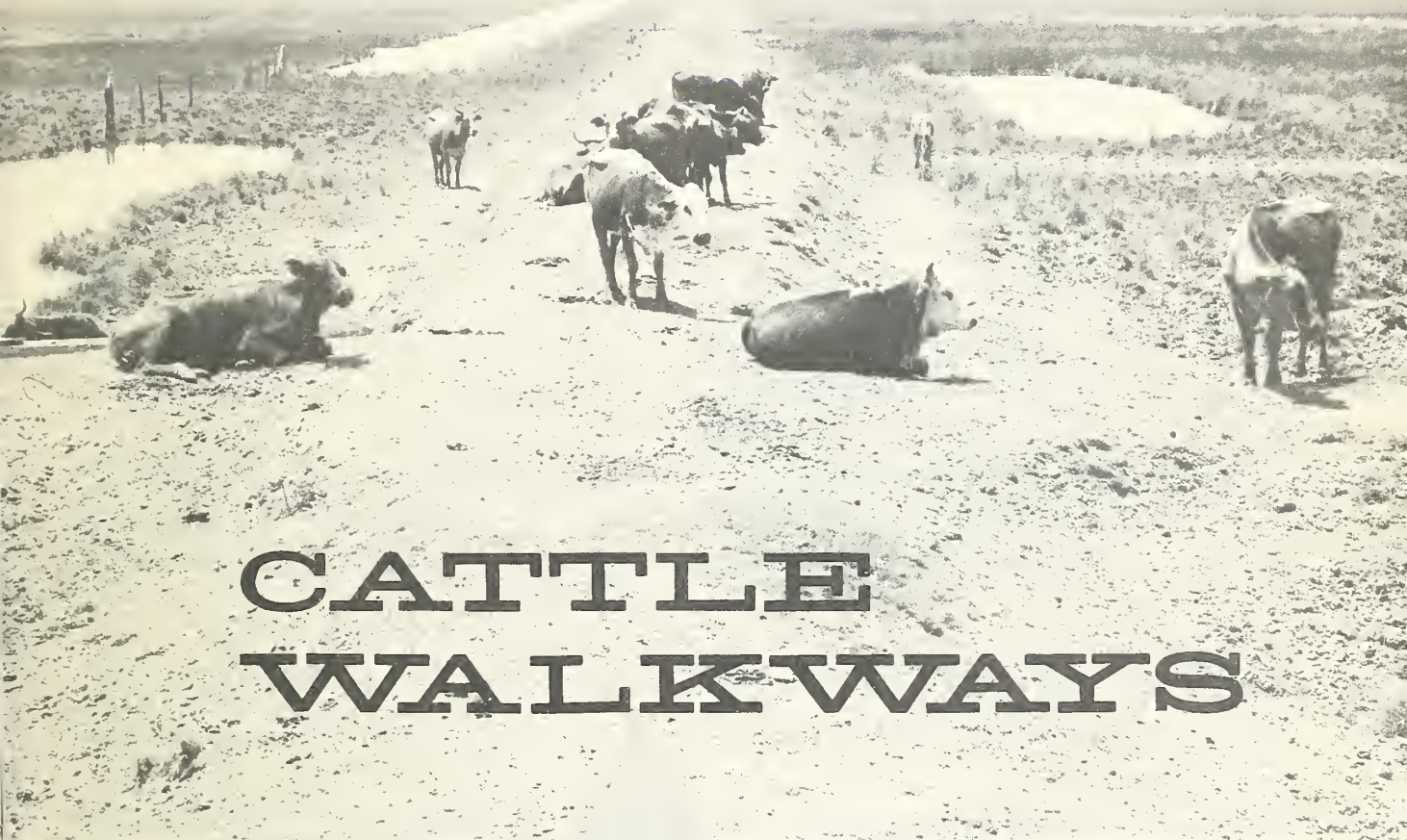
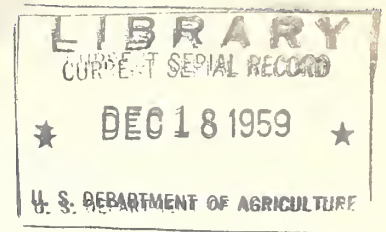


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CATTLE WALKWAYS

An Aid to Coastal
Marsh Range Conservation

Leaflet No. 459

U.S. DEPARTMENT OF AGRICULTURE

CATTLE WALKWAYS—

An Aid to Coastal Marsh Range Conservation

By Robert E. Williams, Southeast Range Conservationist, Soil Conservation Service

ALONG THE GULF AND ATLANTIC COASTS are millions of acres of nutritious forage that could fatten cattle if only the cattle could get to it.

Some stockmen are finding they can build cattle walkways that give their cattle access to these ranges. The walkways are built of earth with draglines. They help with many other problems of cattle operation in marsh range—the heat, insects, disease, heavy rainfall, wind tides, lack of shelter, long dry spells, and unstable soils where cattle bog. In addition they help bring native forage plants back on overused ranges.

Walkways Provide High Firm Areas

Though cattle in these coastal areas relish the marsh range forage, they won't venture out more than a quarter mile from firm ground when the marsh is covered with water. This firm ground may be only a few inches higher than the marsh. "Cheniers," other low coastal ridges, and connecting upland are the natural kinds of high firm ground from which cattle graze into the marsh. Cattle walkways are manmade high areas that provide the necessary firm ground.

Permit More Uniform Grazing

Since cattle stay on or near firm ground when water covers the marsh, most ridges and fringe marsh areas are severely overused, adjoining marsh range is grazed moderate to heavy, and outlying marsh range grazed light or not at all. Walkways that connect ridges or extend into range areas result in more uniform grazing over the entire range unit.

Open Up New Areas

Cattle walkways open up firm marsh areas for grazing that cattle could not reach before. Many acres of nutritious forage cannot be grazed because they are isolated by soft marsh or by sloughs. Cattle walkways, with bridges where necessary, enable marsh range operators to increase their range acreage. Soil maps are helpful in locating marsh areas which are suitable for grazing.

Provide Bedgrounds

Dry, firm bedgrounds, distributed over the range, are of great value in livestock management. Cattle walkways serve as bedgrounds and also as resting places for young calves while the mother cows graze.

Increase Feeding Locations

During extremely wet or cold weather, cattle dependent on marsh forage can be saved by furnishing them hay and other feeds. On ranges with cattle walkways, feed can be taken to the cattle easily, or the cattle can be driven to wooded ridges or other favorable feeding locations.

Provide Calving Areas

Calves sometimes die when dropped on marsh range during high water periods. Cattle walkways serve as calving areas and have resulted in greatly reducing death losses of newborn calves.



Low ridges like the one in the foreground are often bare, nearby marsh range is in poor condition, and outlying marsh scarcely used.

LA-61, 693

Make Handling of Cattle Easier

Cattle walkways enable marsh range operators to ride the range more frequently. Cattle can be moved about more easily. Roundups and drives take less time and are less trouble because cattle prefer trailing on the high, firm walkways. Over a period of time, range cattle become less wild and much easier to handle.

Provide Refuge From High Water

When the marsh is covered with unusually high water, cattle can remain on walkways until the water recedes or until they are driven to higher ground. Marsh ranges near the coast are subject to occasional hurricanes and wind tides. During such times walkways are insurance against stock losses.

—And Relief From Mosquitoes

Mosquitoes are serious pests to livestock in marshes during some summer seasons. Cattle that can stay on walkways, up out of the marsh grass where the mosquitoes rest, are bothered much less by these pests.

Walkways Resemble Built-Up Roads

As the pictures show, cattle walkways resemble built-up roads.

Soundly constructed walkways are built up at least 2 feet above normal high-water levels. They should be at least 10 feet wide across the top. The distance (berm) between the base of the walkway and the borrow pit should be 10 feet or more depending on the firmness of the marsh (see drawing page 6). Soil maps can help in locating walkways and in planning their construction.

Systems of walkways are planned to connect existing ridges, canal levees, or other embankments. Where a walkway extends out into a marsh area, the end is shaped into a T or into a circle to provide a broader area for cattle to leave from and return to the walk-



LA-62, 562

Dragline constructing a cattle walkway parallel to the road. A fence between the walkway and road will keep the cattle from bedding on the highway.



LA-62, 428

The enlarged ramp or T at the end of this newly constructed walkway will prevent bogging where cattle traffic is heavy. The walkway ties into the ridge in the upper right.



LA-62, 073

The cattle walkway relieves use of ridges and gives better overall grazing distribution. Staggered pits are best because cattle can move from either side to graze.



LA-62, 552

Man on right is standing on an undug section (plug) in the borrow pit after heavy rains. This plug prevents drainage below ground level.

way. Such T (or circle) ends help prevent a boggy condition developing from cattle traffic.

Cattle should be kept off newly constructed walkways for 2 to 3 months to allow settling and to permit grass to get started on them. Grasses usually make a good cover on raw walkways in a few months without seeding. In critical conditions grass cover can be provided more rapidly by seeding or sodding adapted grass, thereby reducing erosion on the walkway.



LA-62, 072

This bridge, constructed where the walkway crosses a natural drain, permits natural flow of water to continue. The bridge is large enough to keep water from ponding behind the walkway.

Staggered Pits Double Value of Walkways

The borrow pits, from which the dirt is taken to build the walkway, usually are staggered from side to side. Cattle can move off the walkway to graze from either side. A walkway with staggered pits serves twice as large an area as one with a continuous pit on one side. A continuous pit would leave no place for



LA-62, 551

Cattle rest on the walkway while others graze uniformly over the range. Moderate use of range forage and occasional rest periods are also essential in a sound conservation ranch plan.



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A walkway system connecting the ridges in the background and extending into the marsh in the foreground would make more uniform grazing and better cattle management possible on this marsh range.

the cattle to cross to the marsh range. Pits are staggered about every 660 feet.

Walkways Spaced $\frac{1}{2}$ Mile Apart

Cattle will graze about $\frac{1}{4}$ mile from high ground when water is on the marsh. Walkways therefore are spaced $\frac{1}{2}$ mile apart when two or more parallel ones are needed. By spacing walkways $\frac{1}{2}$ mile apart and



LA-62, 558

A well-constructed, straight, uniform cattle walkway along a range boundary line with plugs (undug sections) left in the borrow pit to prevent drainage. Cattle can use only one side of the walkway, but the pit on the outside is valuable for a firebreak.

staggering pits each 660 feet, cattle have access to every 40-acre area in the range unit. This spacing may be altered when necessary to fit variations in the marsh (see drawings page 8).

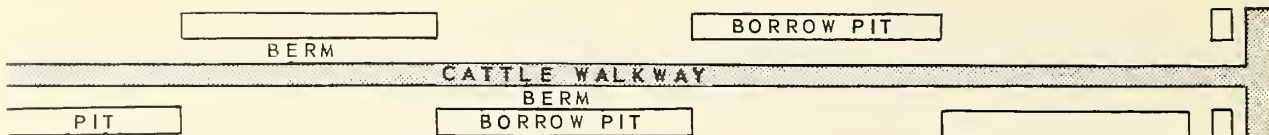
Walkways Along Boundary Lines

When walkways are built along boundary lines, the dirt is taken from one side only. However, undug

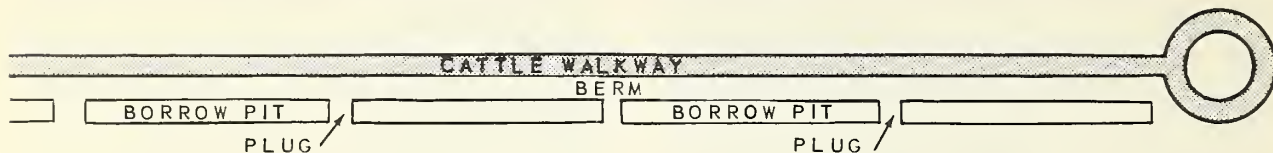


LA-62, 549

Neighboring landowners planned and constructed this double-size walkway with a fence in the center as a part of their conservation plan. Staggered pits are 660 feet apart, making full use of both range areas possible.



Walkway with borrow pits staggered from side to side to permit cattle to move either way from the levee. The T on the end helps prevent excessive wear and bogging that would result if cattle left the levee from only one place. (Drawing is schematic; not to scale.)

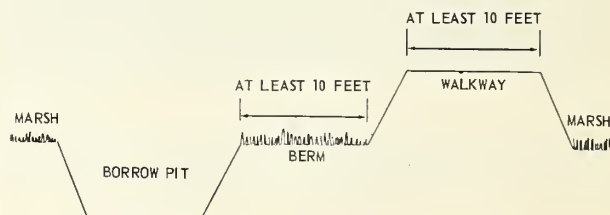


Walkway with all the earth taken from one side. This type is used on boundary lines where pits serve as barriers to livestock. Plugs (undug sections) should be left at intervals to prevent the flow of water in pits. The circle end serves the same purpose as a T end.



TEX-49, 688

The bridge in the foreground permits natural flow of water through the walkway; the staggered borrow pits have no effect on water movement.



Cross section of a cattle walkway. (Drawing is schematic; not to scale.)

sections 30 feet long are left in the pits to serve as plugs and prevent the flow of water.

Bridges

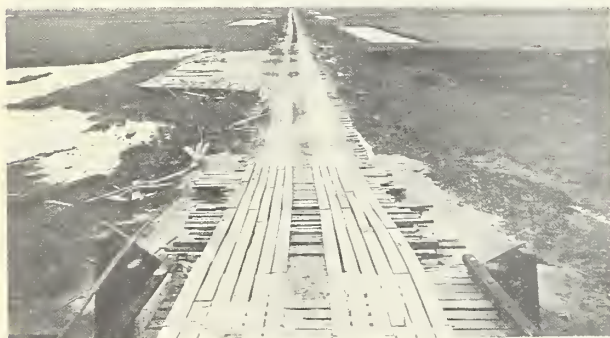
Bridges or culverts are installed wherever walkways cross natural drainages so that walkways will not interfere with the natural flow of water. Bridges should be large enough to keep water from ponding behind the walkway. Wooden bridge materials used in marsh areas are creosoted or otherwise preserved.

Natural Drainage Not Affected

By staggering borrow pits—or by leaving plugs in pits along boundary lines—and installing bridges in natural drains, interference with natural water conditions is kept to a minimum. Since walkways do not drain the land, natural forage conditions are not altered. Experience of landowners and available research show that range and wildlife are the best land uses for most coastal marshes.

Desirable Grasses Increase

Walkways relieve grazing use on natural ridges and adjacent range and thus permit desirable grasses to increase. Proper numbers of animals, use during the proper season, and occasional rest periods keep marsh ranges in top condition.



LA-62, 550

At the request of the landowner an oil company in Louisiana built this road to oil well locations according to walkway specifications. The staggered pits keep salt water from the Gulf of Mexico out of the large marsh area. Continuous pits would permit salt water to come in during high tides. Salt water damages the range where pits are continuous and connect with tidal outlets.

Salt Marsh Grasses

Salt marsh forage grasses of highest value are salt-marsh cordgrass (*Spartina patens*), smooth cordgrass (*S. alterniflora*), seashore saltgrass (*Distichlis spicata*), and seashore dropseed (*Sporobolus virginicus*). When these grasses make up most of the vegetation on a coastal marsh range, 2 to 4 acres will support a cow for the 6-month grazing season. Salt-marsh grasses are more tender and nutritious during the winter. Mosquitoes and other insects are not troublesome during the cool season, so salt marsh is ideally suited for winter range.

Fresh Marsh Grasses

Maidencane or paille fine (*Panicum hemitomon*) and giant cutgrass (*Zizaniopsis miliacea*) are the most nutritious grasses in fresh marsh. These grasses begin growth in late winter and make good forage until mid-summer. About 2 acres of fresh marsh covered with these grasses will support a cow for 6 months.

Other Places Where Walkways Are Useful

Swampy bottom lands and inland marsh areas subject to shallow overflow from swollen streams or flooding from heavy rainfall can be better managed through use of cattle walkways. Walkways extending from high land into such wet grazing land permit moving cattle to safe areas. As on coastal marsh ranges, they also enable the stockman to take care of his cattle more easily.

Wildlife Benefits Too

Walkways provide 2½ acres of open-water ponds for each mile of walkway. Water remains in the borrow pits even during droughts. The value of salt marsh for ducks often depends on the number and distribution of open-water ponds and on the food they produce. Ponds and walkways serve as nesting areas for the Mottled Duck in Texas and Louisiana.

The water in borrow pits can help keep a few muskrats during extended dry periods thereby providing "seed" to restock marshes when moisture is favorable. And walkways can keep calves from damaging muskrat mounds—the calves use these muskrat houses for bedding when they can't find other dry ground.

Walkway pits act as firebreaks to prevent the uncontrolled burning that plays havoc with wildlife habitat. Controlled burning can be practiced with comparative safety on areas with walkway systems.

Seasonal grazing with cattle and controlled burning help improve food conditions for geese and ducks on firm marsh areas.

Where To Get Help

If you want help in developing a conservation plan that includes walkways for your marsh range, get in touch with your soil conservation district supervisor or your SCS technician.



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This salt marsh range provides excellent forage when cattle can get to it. Walkway spurs built into this marsh could make the forage accessible for the entire grazing season.



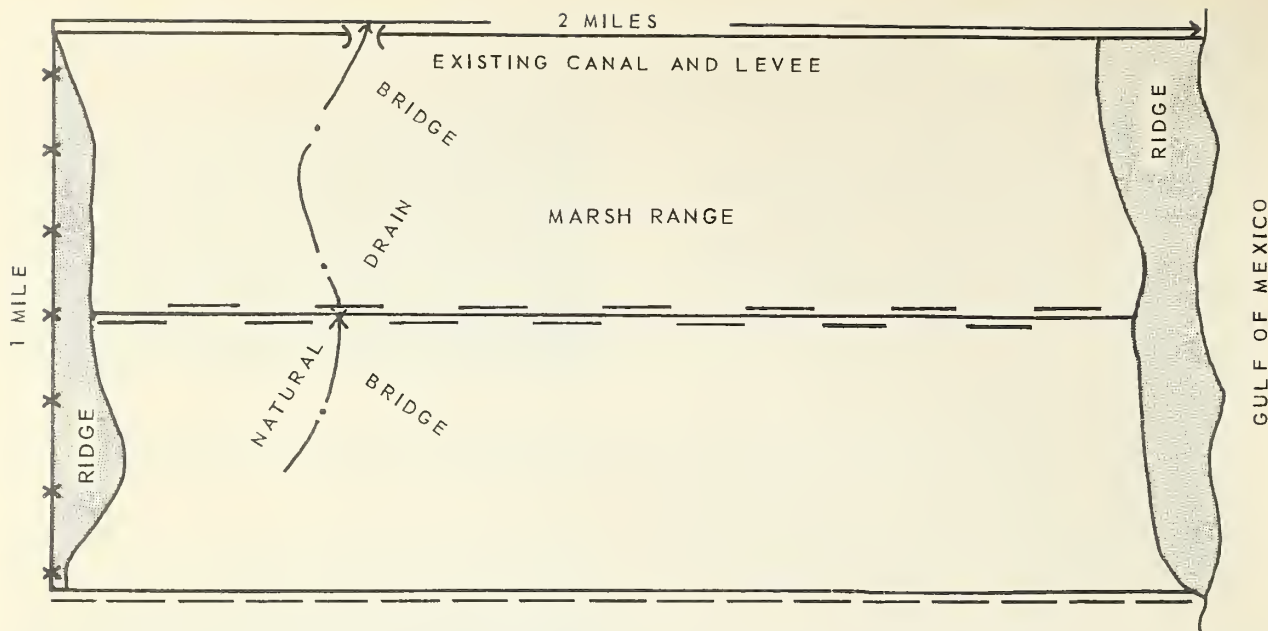
LA-62, 564

Marsh areas are subject to severe droughts in some years. As shown above, water remains in the pits during dry periods. Water in pits is of value to wildlife on salt marsh range and to livestock on fresh marsh range.

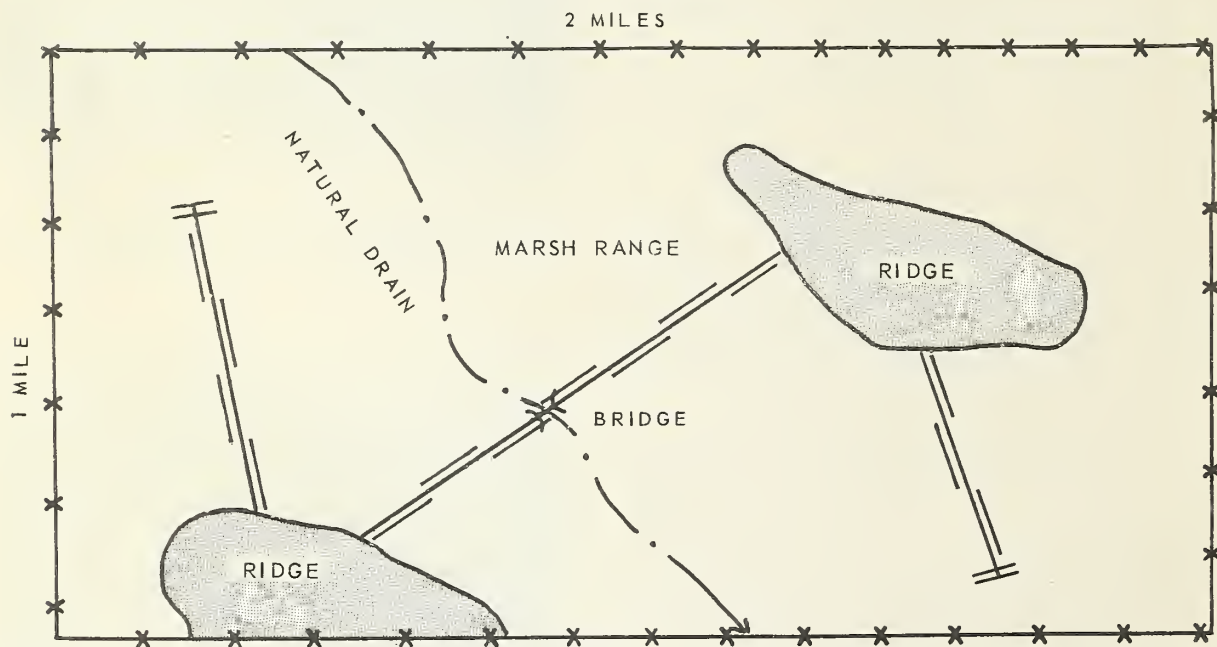


LA-62, 563

Because the landowner wants more muskrats, he fenced this muskrat mound to keep calves from using it for a bed.



The two parallel walkways together with the canal levee along the top enable cattle to reach all parts of this two-section marsh range unit. The walkways and canal levee connect the beach ridge on the right with the ridge (chenier) on the left. Spaced $\frac{1}{2}$ mile apart, with pits staggered every 660 feet, these walkways form a system which makes every 40-acre area easy to reach by cattle. The canal at the top and the borrow pits on the outside of the bottom walkway act as barriers to livestock.



The three walkways on this range unit were planned to make most parts of the marsh range within $\frac{1}{4}$ mile of a walkway or natural ridge. Walkways that extend out into the marsh have a T at the end to spread the cattle traffic and prevent a boggy condition from forming.

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